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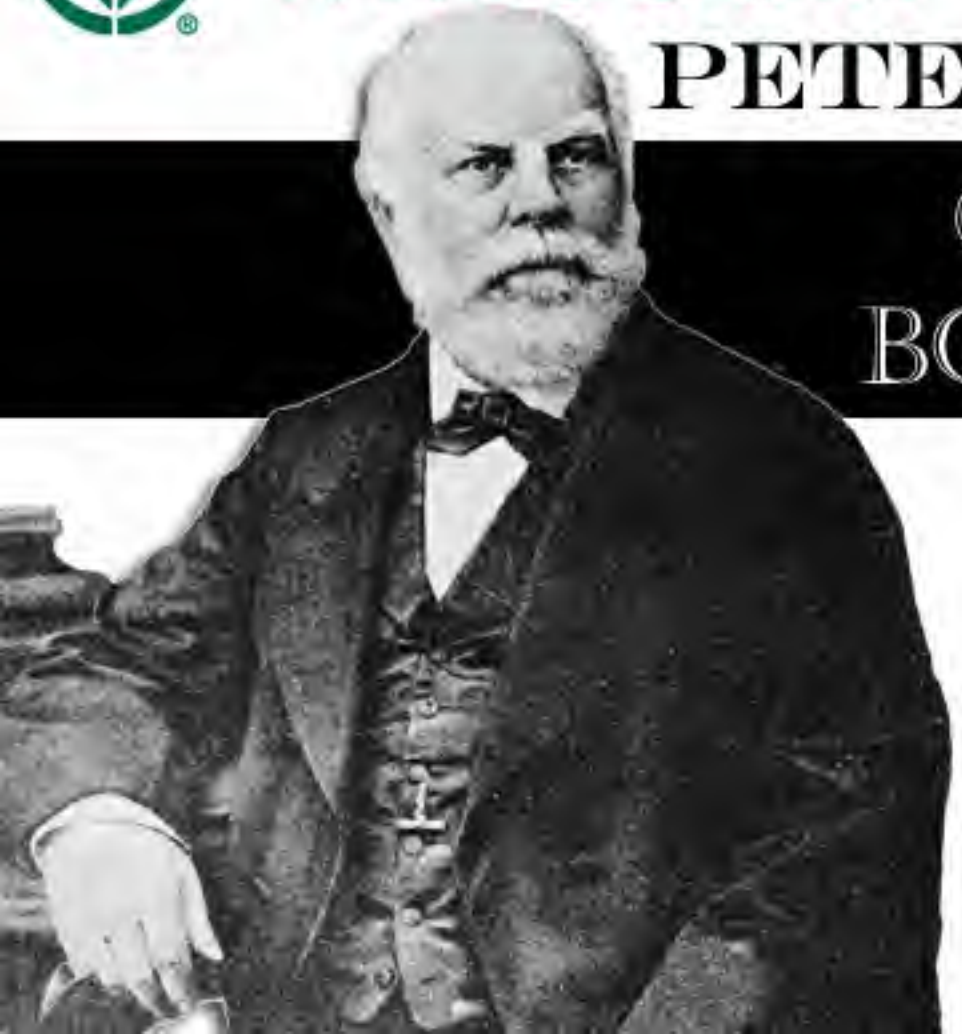

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Höhen-Unterschied zwischen Sea da's Häuser in New Orleans 22 Fuß über dem Mexicanischen Meerbusen und Dr Engelmanns Wohnung in St. Louis 105 Fuß über dem mittlern Wasserstande des Mississippi- fortgesetzt aus barometrischen Beobachtungen an nachbenannten Tagen:

1850	Februar 20.	763,80	Pariser Fuß
	21	328. 98	
	22	170. 88	
	23	395. 24	
	24	726. 18	
	25	681. 60	
	26	518. 46	
	27	559. 80	
	28.	920. 16	
März	1	252. 30	
	im Mittel	531. 71	Paris. Fuß = 566,7 englische Fuß

Engelmanns Barometer über Golf — 22.—
Sea da über Golf — 588.7 engl. Fuß
E. B über Barometermark — 105. 0
Barometer at St Louis über dem — 483.7 engl. Fuß
Golf

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1850 Februar 20.

21	328. 98	
22	170. 88	
23	398. 24	
24	726. 18	
25	681. 60	
26	518. 46	
27	529. 80	
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März 1	252. 30	
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Table of Altitudes.

from Barometrical Observations taken on the Yellow Stone & M. O. Ex Expedition

Date 1859	Locality. On Route traversed by Capt W. F. Raynolds.	Distance from Ft Pierre	Altitude
June 18-28	Fort Pierre	—	1504 ft.
	Dividing Ridge	3 Miles	2121,4 "
28-29	Camp at Willow Spring flowing South	8,45 m.	1715,1 "
29.-30.	Water Hole Creek (Camp) flowing South	23,77 "	1892,5 "
	Over a gentle ridge to another small Creek	33,7 "	2251,0 "
30 July 1	Camp at Hermaphrodite Creek, flow: North	43,1 "	2520,6 "
	Crossing Dry Wood Creek	49,6 "	2622,8 "
July 1-2	Camp on Shyenne River right bank opposite mouth of Cherry Creek	60,9 "	2006,1 "
2-4	Camp on Shyenne River, left Bank	63,9 "	1965,6 "
4-5	" " Independence Creek	82,8 "	2607,9 "
5-6	" " Relief Creek	95,4 "	2565,2 "
6-7	" Chan-o-apiov Painted Wood Creek	109,7 "	2743,5 "
	Touching Owl Feather Creek, flow: N.E.	114,8 "	2711,3 "
7-8	Camp at Silver Spring	123,3 "	3265,5 "
8-9	" Iroquois Creek	139,4 "	2936,0 "
9-11	" on Shyenne River right Bank	154,5 "	2788,4 "
	Top of Bear Butte		4417,6 "
11,-12	" near Mato-pa-ha or Bear Butte	171,4 "	3093,4 "
12-13	" at Pa-sus-copa or Crooked Nose Creek	186,6 "	3514,4 "
13-14	" Red Earth Creek	199,5 "	3475,3 "
14-15	" Box Elder Creek	209,4 "	3453,7 "
15-16	" on North Fork of Shyenne River	222,0 "	3412,4 "
16-18	" " " " " "	236,8 "	3465,3 "
18-19	" Little Missouri River	251,9 "	3533,7 "

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Table of Altitudes

Continued.

Date 1859	Locality On Route Traversed by Capt W. F. Raynolds	Distance from Ft Pierre	Altitude
July 19-20	Camp on Little Missouri River	264,0 ms	3584,3 ft
20-21	" " Fork of Little " " "	277,1 "	3824,7 "
21-22	" " " " " " "	288,3 "	4005,4 "
	Top of Dividing Ridge	292,3 "	4281,2 "
22-23	Camp at Dry Fork of Powder River	304,0 "	3603,8 "
23,25	" " " " "	315,2 "	3354,3 "
25-26	" on " " " "	330,2 ft	3003,1 "
26-27	" " Powder River	336,7 "	2981,3 "
27-28	" " " "	356,2 "	2973,9 "
28-29	" " " "	372,7 "	3024,7 "
29-30	" " " "	382,8 "	2921,9 "
30 Aug 1	" " " "	395,4 "	2765,6 "
Aug 1-2	" " " "	412,6 "	2886,9 "
2-3	" " Mizpah Creek	418,6 "	2730,3 "
3-4	" " hillside west of Mizpah Creek	427,8 "	3066,0 "
	Top of Ridge between Mizpah & Pumpkin Creeks	430 "	3295,0 "
4-5	Camp on Pumpkin Creek	441,3 "	2900,9 "
5-6	" " Déjé agie on Tongue River	451,5 "	2862,1 "
6-8	" " Tongue River	457,0 "	2831,8 "
8-9	" " " "	464,6 "	2984,6 "
	Top of Ridge	481,6 "	3302,0 "
9-10	Camp on Small Creek	482,5 "	3053,5 "
	Top of Ridge	491 "	3303,4 "
10-11	Camp on Rosebud River	498,5 "	3003,7 "
	Top of Ridge	510,5 "	3749,7 "

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Table of Altitudes

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Date 1859	Locality On Route Traversed by Capt W. F. Raynolds	Distance from Ft Pierre	Altitude
Aug 11-12	Camp on Emile's Fork	513,6 M.	3414,4 ft
	Ridge between the two branches of Emile's Fork	515, "	3967,4 "
12-15	Camp on Emile's Fork	526,5 "	3296,1 "
15-29	" " Yellowstone River	543,0 "	2559,8 "
29,-31	" at Ft. Sarpy on Yellowstone River	552,8 "	2523,5 "
31 Sept 1	" on Cut off Creek	562,9 "	2614,1 "
Sept 1-2	" " branch of Cut off Creek	572,1 "	3696,4 "
	Top of Ridge	573, "	3686,1 "
	Halt on Tullock's Creek Point of Separation of Lt. Maynadiers party	580,0 "	2802,6 "
2-5	Camp on Big Horn River, near its mouth	586,8 "	2489,3 "
5-6	" " " " "	603,6 "	2856,3 "
6-7	" " " " "	617,4 M	2990,0 "
7-8	" " " " "	631,1 "	3370,9 "
8-9	" " " " " above Mouth of Soap Creek	648,5 "	3471,2 "
9-10	" " Soap Creek	658,1 "	3491,0
	Top of Ridge	666, "	4158,4 "
10,-12	Camp on Grass Lodge Creek	673,0 "	3986,3 "
	Divide between Grass Lodge Cr & Little Horn R	675,6 "	4664,0 "
12-13	Camp on Pass Creek	685,9 "	3948,0 "
	Spur of the Big Horn Mountains	695,3 "	4562,9 "
13-14	Camp on Tongue River	700,3 "	4053,8 "
	Route crosses several Spurs & Creeks, the highest Spur	709,6 "	4894,9 "
14-15	Camp on Goose Creek	712,5 "	4495,3 "

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Date 1859	Locality On Route Traversed by Capt W. F. Raynolds	Distance from Fr. Pierre	Altitude
	Top of Spur.	718. M.	4942,4 ft
Sept 15-16	Camp on Breakdown Creek	719,4 "	4679,9 "
	East branch of Goose Creek	722,0 "	4386,1 "
16-17	Camp on Clear Fork of Powder River near its source	734,0 "	5189,1 "
17-19	Camp on Clear Fork of Powder River	738,2 "	4514,0 "
19-20	" " E. branch of Clear Fork	753,7 "	4589,7 "
	Ridge between the waters of Clear & Sandy Forks	762,5 "	5437,5 "
20-21	Camp on Crazy Woman's Creek	769,6 "	5035,1 "
	Crossing this & several other branches of Sandy Fork.		
21-22	Camp on branch of Sandy Fork of Powder R.	780,2 "	5353,4 "
22-24	" " Willow Creek, flowing into main Fork of Powder River	795,0 "	5124,7 "
24 Oct. 1	" " Powder River	806,0 "	4790,0 "
	Ridge above Red Cañon Creek, 26 mi above Camp	832 "	7418,2 "
Oct 1-2	Camp on Powder River	817,0 "	4541,6 "
2-3	" near the Red Buttes of Powder River	825,0 "	5043,0 "
3-4	Camp on Branch of Powder River	832,2 "	5563,7 "
4-5	" " " " " "	847,3 "	5960,3 "
5-6	" near Divide between Powder & Wind or Big Horn Rivers	859,2 "	6644,8 "
	Descending Bad Water Creek to:	867,4 "	6201,7 "
	Crossing Divide between the waters of Wind & Platte Rivers	875,2 "	6399,6 "
6-7	Camp on 1st Branch of Poison Spring Cr	880,3 "	5767,3 "
7-8	" "2 " " " " Creek	886,2 "	5740,8 "

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Date 1859	Locality On Route Traversed by Capt W F Raynolds	Distance from Ft Pierre	Altitude
Oct 8-10	Camp on 4th Branch of Poison Spring Creek	897,8 M	5877,0 ft
10-11	" " " " " " "	912,9 "	5572,4 "
11-13	" at the Red Buttes of Platte River	924,0 "	5441,0 "
13-14	" on Platte River	935,0 "	5123,4 "
14-15	" " "	953,0 "	4994,3 "
15 To			
May 10. 1860	Winter Quarters on Deer Creek	963,7 "	5319,7 "
1859	On Lt Maynadier's Route	from Ft, Sapy	
Sept 2	Point of Separation on Tullocks Creek	27,2 M	2802,6 "
2-3	Camp on Tullocks Creek	30,6 "	2757,5 "
3-4	" " " "	33,9 "	2588,1 "
4-5	" " " "	45,6 "	2772,5 "
5-6	" " " "	57,8 "	3229,6 "
6-7	" " " "	67,5 "	3495,0 "
	Top of Ridge	74 "	4131,2 "
7-9	Camp on Rose bud River	80,6 "	3720,7 "
9-10	" " " " "	95,9 "	3718,8 "
10-11	" " " " "	104,3 "	3691,6 "
	On divide between Rose bud & Tongue River	109,2 "	4055,5 "
11-12	Camp on Déjé agie on Tongue River	125,0 "	3238,9 "
12-13	" " Tongue River	132,0 "	3343,0 "
13-14	" " " "	146,1 "	3736,4 "
14-16	" " " "	160,9 "	4387,2 "
16-17	" " Headwaters of Tongue River	165,4 "	4769,5 "

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Date 1859	Locality On Route Traversed by Lt. H. E. Maynadier	Distance from Ft Sarpy	Altitude
	Dividing Ridge between Tongue River & Clear Fork of Powder River	168,5 M.	4674,3 ft
Sept 17-18	Camp on Clear Fork of Powder River	177,6 "	3800,6 ft
18-19	" " " " " "	188,4 "	3496,0 "
19-20	" " " " " "	201,8 "	3569,7 "
	on hill near Function of Clear & Main Forks of Powder R	207,2 "	3657,3 "
20-21	Camp on Powder River	210,8 "	3769,9 "
21-23	" " "	217,9 "	3857,2 "
23-24	" " "	227,9 "	3583,0 "
24-25	" " "	238,3 "	3784,9 "
25-26	" at Function of Main & Sandy Forks of Powder River	244,6 "	3742,3 "
26-27	" on Sandy Fork of " "	251,2 "	3883,8 "
27-28	" " " " " "	261,2 "	4360,8 "
28-29	" " " " " "	267,0 "	4092,6 "
29-30	" " " " " "	276,1 "	4138,6 "
30-Oct 1	" " " " " "	287,0 "	4012,0 "
Oct 1-2	" " branch of Crazy Woman's Creek	301,3 "	4342,0 "
2-3	" " fork of Sandy F. of Powder River	307,1 "	4828,7 "
	Dividing Ridge between Waters of Sandy & Main Forks of Powder River	318 "	5801,9 "
3-4	Camp on Willow Creek flowing = = into Main Fork	322,0 "	5237,7 "
4-5	" " Main Fork of Powder River	335,0 "	4462,1 "
5-6	" " " " " " "	346,3 "	4899,0 "
6-7	" " " " " " "	357,0 "	5306,4 "

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Table of Altitudes

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Date 1859	Locality On Route Traversed by Lt. E. H. Maynadier	Distance from Ft. Sarpy	Altitude
Oct 7-8	Camp on Main Fork of Powder River	373,3 M	6016,1 ft
8-9	" " Spring Branch	385,1 "	6613,2 "
	Divide between the Waters of Powder & Wind or Big Horn Rivers	386. "	6682,2 "
9	Descending Bad Water Creek, then turning off & Crossing the Divide between the waters of Wind & Platte Rivers	398. "	6232,4 "
9-10	Camp on the 1st " branch of Poison Spring Cr	406,0 "	5747,1 "
10-11	Camp on 3d branch of Poison Spring Creek	416,8 "	5842,1 "
11-12	" " 4th " " " " " "	432,3 "	5837,9 "
12-13	" " Poison Spring Creek near the Red Buttes of Platte River	445,0 "	5717,6 "
13-14	" " Platte River	456,0 "	5307,9 "
14-15	" " " "	474,0 "	4994,3 "
15,	Winter Quarters at Deer Creek	485,0 "	5319,7 "

Date 1860	On Route traversed by Capt W. F. Raynolds	Distance from Winter Quar.	
May 10	Winter Quarters at Deer Creek	—	5319,7 "
	Ridge between Deer & Muddy Creeks	4,3 M	5942,5 "
10-11	Camp on Platte River above Muddy Cr	11,3 "	5472,4 "
11-12	" " " " North Shore	27,5 "	5865,1 "
12-14	" at the Red Buttes of Platte River	40,5 "	5459,0 "
14-15	" on " 4th " Branch of Poison Spring Cr	53,8 "	5594,9 "
15-16	" " 3d " " " " " "	72,9 "	5776,9 "
16-17	" " 2d " " " " " "	86,4 "	5955,7 "

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Table of Altitudes.

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Date 1860	Locality On Route traversed by Capt W. F. Raynolds	Distance from Winter Quar.	Altitude
	Dividing Ridge between Waters of Platte & Wind or Big Horn River	92,5 M.	6327,4 ft
May 17-18	Camp on Bad water Creek	106,8 "	5647,4 "
18-19	" " " " "	120,2 "	5675,1 "
19-21	" " Big Horn River, 4 Miles above the mouth of Bad Water Creek	140,2 "	4994,9 "
21-24	" " Big Horn River, at Mouth of the Popo-agie	158,2 "	5282,1 "
24-25	" " Wind River, South bank	173,5 "	5327,3 "
25-26	" " " " North "	193,4 "	5625,1 "
26-28	" " " " " "	209,6 "	6087,2 "
28-29	" " " " South "	228,0 "	6322,7 "
29-30	" " " " " "	241,5 "	6894,9 "
	Crossing Spur extending into river	246,5 "	7658,6 "
30-31	Camp near head waters of Wind River	255,8 "	7422,6 "
	Crossing Spur of Wind River Mountains	258 "	8675,8 "
	" branch of Wind River	259,8 "	8508,3 "
	"Union Pass" in dividing Ridge between the Waters of the Wind River, flowing in to the Missouri, & the Gros Ventres Creek flowing into Lewis's Fork of the Columbia	264,8 "	9988,5 "
31-June 1	Camp on Branch of Gros Ventres Creek	269,2 "	9263,5 "
June 1-2	" " " " " " "	276,4 "	8770,1 "
2-4	" " " " " " "	280,0 "	8291,7 "
	Leaving the Valley & traversing several spurs to		
4-5	Camp on tributary of Gros. Ventres Creek	288,0 "	8232,4 "

Note The waters from this Pass flow into the Mo. the Columbia and the Colorado Rivers - hence the name = Union Pass

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Table of Altitudes
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Date 1860	Locality On Route traversed by Capt W. F. Raynolds	Distance N. W. or S. E.	Altitude
~~May~~ June 5-8	Camp on North branch of Gros Ventres Cr	296,4 Mi	8463,4 ft
June 8-9	" near the junction of the branches of Gros Ventres Creek	308,9 "	7605,9 "
	Crossing a Spur extending close to the Creek	317, "	8035,0 "
9-11	Camp on Gros Ventres Creek	324,7 "	7035,0 "
11-12	" " Snake River left Bank, 2 miles below the mouth of Gros Ventres Cr	350,1 "	6336,9 "
12,-13	Camp on Snake River, left bank	352,3 "	6230,1 "
13-15	" " " ", " "	353,4 "	6239,8 "
15-18	" " " ", right "	354,7 "	6105,0 "
	Top of Ridge between Pierre's Creek & Snake River	363,0 "	8396,2 "
18-19	Camp at Entrance of Pierre's Hole	371,1 "	6509,8 "
19-20	" in Pierre's Hole	388,9 "	6336,9 "
	Crossing several Creeks & Spurs the highest	402,4 "	6544,8 "
20-21	Camp on tributary of Henry's Fork of Snake River	406,4 "	6099,5 "
21-22	" " another tributary	410,1 "	5524,9 "
22,-23	" at Hill near Spring Fork of Henry's	422,8 "	5873,1 "
	Top of the same hill, (Camas Prairie)	425,7 "	6432,9 "
23-25	Camp on Lake Fork of Henry's	445,2 "	6376,7 "
	Pass in Ridge dividing waters of Henry's Fork & Madison River	460 "	6720,8 "
25-26	Camp on Madison River left bank	470,2 "	5994,0
26-27	" " " " " "	475,8 "	6091,9
27-28	" " " " " "	501,8 "	5380,2

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Table of Altitudes

Continued.

Date 1860	Locality On Route traversed by Capt W. F. Raynolds	Distance from Winter Quarters	Altitude
June 28-29	Camp on tributary of Madison River	520,4 M.	4986,3 ft
	Top of Hill west of " "	527,2 "	5768,9 "
29-30	Camp on Madison River, left bank	550,4 "	4217,3 "
30-July 2	" near the Three Forks of the Missouri, formed by the confluence of Madison Jefferson & Gallatin Rivers, left Bank of Madison River	553,0 "	4258,1 "
July 2-3	Camp at the 3 Forks right Bank of Madison River	554,0 "	4135,4 "
3-5	Camp on Gallatin River right bank	561,5 "	4195,8 "
	Crossing 1st Ridge between Gallatin & Green R	569,2 "	5495,2 "
	Descending to headwaters of tributary of E. Fork of Gallatin River	573,3 "	5184,9 "
	Crossing 2d Ridge between Gallatin & Green River	576,6 "	5373,0 "
5-6	Camp on Little Green River	582,7 "	4652,5 "
	Top of high Bluff close on the river	591 "	6002,3 "
6-7	Camp on Headwaters of Little Green River	597,0 "	5231,8 "
	Dividing Ridge between L. Green & Smith's R.	603 "	5682,5 "
7-9	Camp on Smith's River	621,0 "	4917,7 "
9-10	" " Tributary of Smith's River, 3 miles above its mouth	636,0 "	4877,4 "
	Crossing several Ridges, then passing over to the left bank of the river, ascending a high hill & descending to	654,6 "	4975,2 "
10-11	Camp on another tributary of Smith's River, 2 miles above its mouth	657,6 "	4393,4

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Date 1864.	Locality On Route traversed by Capt W. F. Reynolds	Distance from Winter Den	Altitudes
	Crossing high Spur	660,5 M	5789,8 ft
	" Smith's River	668,5 "	3651,0 "
	Top of Ridge east of Smith's River	672,5 "	4534,0 "
July 11-12	Camp on Missouri River	684.5 "	3545,0 "
" 12-13	" " Willow Creek, 3½ miles above its mouth	698 0 "	3324,4 "
" 13-14	" " Tall Timber Creek	711,4 "	3367,4 "
	Top of Hill	713, "	3526,3 "
14-23	Camp on Missouri River, opposite Ft Benton	728.0 "	2743,3 "
23-24	Camp on left bank of Missouri River opposite Bear's Paw Mountains	772.0 "	2755,7 "
24-25	" " left bank of Missouri River 2 miles below Mouth of Judith River	818,0 "	2602,7 "
25-26.	" " left Bank of Missouri at lower limit of the "Bad Lands" (Mauvaises Terres)	864,0 "	2369,9
26-27	" " left Bank of Missouri River	910,0 "	
27-28	" " right " " " "	956 "	
28-30	" " " " " " "	993 "	
30-31	" " " " " " "	1040 "	
31-Aug 1	" at "El Paso" on Missouri River	1089 "	
Aug 1-2	" on Missouri River, 3 miles above mouth of Milk River	1097 "	
2-3	" " " "	1113 "	
3-4	" " " "	1151 "	
4-6	" " left bank of Missouri River	1190 "	
6-7	Camp on Missouri R. below mouth of the Little Muddy	1243 "	

Observations not completed yet.

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Date 1860	Locality On Route Traversed by Capt W.F. Raynolds	Distance fr. Winter Qu.	Altitude
Aug 7–16	Camp at Fort Union.	1270 M. from Ft Union	1993,2 ft
Aug 16	High ground on North bank of Missouri River	13,3 M	2285,3 "
16–17	Camp on Muddy or Canal Creek	25,0 "	1910,2 "
	Ridge extending between Muddy & Beaver Creek	41,5 "	2518,1 "
17–18	Camp on Beaver Creek	47,2 "	1988,2 "
18–20	" " White Earth River on a bluff near	67,9 "	1896,7 "
20–21	" " Missouri River at head of Great Bend	82,1 "	1929,2 "
21–22	" " " " Foot " " "	102,0 "	1802,9 "
	High ground between Missouri R. & Tide Creek	116,0 "	2234,7 "
22–23	Camp on Missouri River, about 4 miles above Fort Berthold	126,5 "	1720,4 "
	Crossing Missouri River at Ft Berthold	130,2 "	1753,2 "
23–24	Camp on Dancing Bear Creek	134,2 "	1862,6 "
	Dividing Ridge between Dancing Bear Creek & Mina Wakpa or Knife River	140,3 "	2248,3 "
24–25	Camp on Knife River	160,7 "	1938,4 "
	Flat Divide between Missouri River & Square Butte Creek	170,0 "	2485,8 "
25–27	Camp on Square Butte Creek	178,5 "	2068,3 "
	Divide between Square Butte Creek & Heart River	188,5 "	2478,2 "
27–28	Camp on Ta Chanta Wakpa or Heart River	196,5 "	1926,7 "
	Divide between Heart R & Mule Creek	205,0 "	2183,9 "
	Crossing Mule Creek	207 0 "	1954,4 "
	Divide between Mule Cr & Cannon Ball River	214 0 "	2403,1 "
28–29	Camp on North Fork of Cannon Ball River	224 0 "	2049,7 "

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Table of Attitudes

Continued.

Date 1860	Locality On Route Traversed by Capt W G Raynolds	Distance from Fort Union	Attitude
	Spur between the two Forks of Cannon ball River	229. oM	2261,0ft
Aug 29-30	Camp on Inyan pa Ka hap or Cannonball River	232,0 "	1973,4"
	Divide between Cannonball & Ree Rivers	246,6 "	2358,7"
30-31	Camp on tributary of Ree River	256,6 "	2021,3"
31-Sept 1	" " Palána ta wakpa or Ree River	270,4 "	1945,2"
Sept 1-3	" " High bank Creek, flowing into Ree River	280,2 "	2229,3"
	Divide between waters of Ree & Moreau Rivers	288. "	2473,9"
3-4	Camp on Little Moreau River	299,0 "	2092,5"
	Crossing several spurs, the highest	302 "	2290,6"
	" Moreau River	308,3 "	1878,9"
	" hill	313 "	2416,9"
4-5	Camp on tributary of Moreau River	317 "	2155,1"
	Top of Flat Ridge, dividing Moreau & Shyenne Rivers	322,2 "	2379,9"
5-6.	Camp on Shyenne River or Wakpa "		
	— Washte	338,8 "	1689,4"
	Crossing high Spur	347 "	2461,1"
6-8	Camp on Mijonni at mouth of Chantier Creek	365,7 "	Bar: broken
8-10	Camp at Fort Pierre	378,7 "	1504

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Table of Altitudes

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Date	Locality	Distance from Winter Q.	Altitude
1859.	On J. H. Snowden's Reconnaissance from Winter Quarters to Pumpkin Butte		
October 19	Crossing Platte River or Kampeska Wakpa	3 M.	5213,0 ft
	Top of Piney Ridge, dividing waters of South Fork of Cheyenne & Platte River	19 "	6082,0 "
20	Crossing dry Creek at a spring	28 "	5477,6 "
20-21	Camp on tributary of S. Fork of Cheyenne	31 "	5531,1 "
	Top of Ridge	36 "	5598,1 "
	Bed of dry Creek	37 "	5457,5 "
	Top of Ridge beyond it	39,5 "	5659,2 "
21-22	Camp on main branch of S. Fork of Cheyenne	44 "	5274,5 "
	Top of Ridge	47,5 "	5648,9 "
	Highest Hill	49,7 "	5778,8 "
	Dividing Ridge between Powder & Cheyenne Rivers	53,5 "	5713,7 "
22-23	Camp on tributary of Powder River	60 "	5022,8 "
	Top of Pumpkin Butte	(73 ")	6251,0 "
	or Wagamu Paha		
23-24	Camp on dry Creek, South of Pumpkin Butte	65,7 "	5349,3 "
24	Crossing Pumpkin Butte Ridge dividing Powder R. & N Fork of Cheyenne	68,5 "	5703,9 "
	Crossing branch of N Fork of Cheyenne R	75,5 "	5155,7 "
	" Ridge	79,0 "	5467,8 "
24-25	Camp on Tributary of N Fork of Cheyenne	81,0 "	5255,6 "
	On Ridge dividing 2 branches of N Fork of Cheyenne River	83,0 "	5294,1 "

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Table of Altitudes
Continued.

Date	Locality	Distance from Winter Quar	Altitude
	On Snowden's Reconnaissance from		
1859	Winter Quarters to Pumpkin Butte		
	Crossing branch of the N. Fork	86,0 M	5074,8 ft
	Top of Ridge	88,0 "	5225,0 "
	Traversing low plateau	90,5 "	5130,8 "
	Dividing Ridge between the waters of N & S. Forks of Shyenne River	92,5 "	5202,5 "
October 25-26	Camp on branch of S. Fork of Shyenne R or Mini-pusa	99.0 "	4935,5 "
26-27	Camp on branch of South Fork of Shyenne R	112,0 "	4549,3 "
27-28	" " " " " " " " "	124,8 "	4299,7 "
28-29	" " " " " " " " "	130, 8 "	
	Ascend.g Ridge between 2 main branches of S Fork of Shyenne River & descending to		
29-30	Camp on branch of S Fork of Shyenne River	152,6 "	
	Crossing several ridges & Creeks, to		
30-31	Camp on another branch	167,2 "	
31-Nov.1	" " head waters of branch of S Fork	183,7 "	
	Crossing Divide between waters of S Fork of Shyenne & Platte R. to		
Nov. 1-2	Camp on tributary of Platte River	192,4 "	
	crossing several spurs to		
2-3	Camp on S. bank of Rampusha Wakpa or Platte R	207,2 "	
3-4	" " tributary of Platte River	225,8 "	
Nov 4	" at Winter Quarters on Deer Creek	240,6 "	5319,7 "

Barometer Observations / No Observations / Over Near.

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1860	Locality	Distance from Winter Q.	Altitude
	Con. of D. Hutton's Reconnaissance from		
	Deer Creek, to Powder River		
March 29	Crossing Platte River	4.4 M	5243,8 ft
	On Ridge north of Platte River	5,7 "	5497,3 "
	On Platte bottom	8,5 "	5286,3 "
	On Ridge	11,0 "	5659,7 "
	On Valley of Willow Spring	14,3 "	5494,7 "
29-30	Camp on Willow Spring	23,3 "	5786,9 "
	Crossing divide between Platte & Powder R	33,7 "	6289,5 "
30-31	1st Camp on Salt Fork of Powder River	40,7 "	5655,4 "
31-April 1	2nd " " " " " " "	55,4 "	5179,8 "
April 1-2	3d " " " " " " "	74,2 "	4953,9 "
2-3	Camp on Main Fork of Powder River	93,6 "	4654,9 "
	On Return Trip:		
3-4	1st Camp on Salt Fork of Powder River	107,1 "	4769,6 "
4-5	2nd " " " " " " "	126,7 "	5133,6 "
5-6	3d " " " " " " "	147,4 "	5668,1 "
	Crossing divide between Powder & Platte Rivers	152,3 "	6278,8 "
6-7	Camp on Willow Spring	163,1 "	5801,8 "
	S Bank of Platte River	182,0 "	5201,7 "
	Deer Creek (Winter Quarters)	187,4 "	5319,7 "
1860	Int. Route Traversed by Lt H E Maynadier	fr W. Q.	
May 10-11	Camp on Platte River, at mouth of Muddy Cr	11,5 M	5412,4 "
11-12	" " " " North bank	27,6 "	5865,1 "
12-14	" at the Red Buttes of the Platte River	40,6 "	5459,0

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Date 1860	Locality On Route Traversed by Lt H. E Maynadier	Distance from Winter Q.	Altitude	de
	Point of Separation from Capt Raynolds' party	46,0 M		4
May 14-15	Camp at Willow Spring	57,5 "		
15-16	" on Sweet Water River, near Independence Rock	78,6 "		
16-17	Camp on Sweet Water River	96,7 "		
17-18	" " " " "	117,0 "		
18-19	" " " " "	124,8 "		"
19-20	" " " " "	142,1 "		
21-21	Camp on Granite Ridge	156,4 "		
21-23	" " Little Popo Agie	168,2 "		
23-25	" " Big Horn River, at Mouth of Popo Agie River	185,0 "		
25-26	" " Big Horn River 4½ miles above mouth of Badwater Cr	202,0 "		
26-27	" in South Pass of the Big Horn Mount	218,8 "		
27-28	" " " " " " " "	221,8 "		
28-29	" on Big Horn River, at the foot of the Cañon	236,3 "		
29-30	" at head of creek flowing into Big Horn River	248,4 "		
30-June 1	" on Big Horn River, 2m below Owl Creek	271,0 "		
June 1-2	" " " " " opposite Good Creek	291,6 "		
2-3	" " " " " 1m below No Water Cr.	298,6 "		
3-4	" " " " on Es-pot-agie-agie	307,5 "		
4-5	" " " " " 4m below No Wood Cr	324,6 "		

Observations from May 14 to June 17 lost in crossing Shoshoning River, consequently no records

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	Locality	Distance from Winter Qu.	Altitude.
to	On Route Traversed by Lt. H. E. Maynadier		
5-6	Camp on Grey Bull Creek	339,8 M.	Observations
6-7	" " dry Tributary of Stinking River	366,3 "	lost in
7-8	" " Stinking River, right bank	377,5 "	Stinking
8-11	" " " right bank	391,6 "	River
11-12	" " " left bank	391,7 "	4714,2 ft
	On high Ground north of Stinking River	393,7 "	4847,7 "
12-13	Camp on Sage Creek	416,2 "	4175,5 "
13-14	" " " "	423,9 "	4485,6 "
14-15	" " headwaters of Sage Creek	437,8 "	4740,9 "
	Ridge dividing waters of Stinking River & Clark's Fork	442,3 "	5174,4 "
15-16	Camp on Clark's Fork, right bank	452,7 "	3771,8 "
16-18	" " " ", " "	465,7 "	3485,4 "
18-19	" " " ", left "	465,8 "	3601,8 "
	On Divide between Rocky Fork & Big Rose Bud	484,7 "	4977,7 "
19-20	Camp at Spring near Top of Ridge	485,7 "	4854,8 "
	Crossing several gulleys & Spurs, the highest	491,2 "	5022,1 "
	" right bank of Big Rose Bud	496,3 "	4443,9 "
20-21	Camp on left branch " " " "	503,4 "	4740,7 "
	On spur on the right side of left branch	509,7 "	5681,7 "
21-22	Camp on left branch of Big Rose Bud	513,6 "	4519,4 "
	Crossing high spur on the left of left branch	531,2 "	6478,2 "
22-23	Camp on Creek flowing into left branch	622,7 "	5307,8 "
	Crossing a high spur	525,7 "	6092,0 "
	" another creek flowing into left branch	526,9 "	5347,9 "

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60	Locality On Route traversed by Lt. H. E. Maynadier	Distance From Camp	Altitude
	Crossing a second high Spur	529,7 miles	6178,3 ft
June 23-24	Camp on yellow Stone River, right bank	544,8 "	3860,1 "
24-25	" at Mouth of Big Rocky or Beaver River	558,6 "	3824,1 "
25-27	" on Yellow Stone R. below mouth of Big Rocky	559,7 "	4070,0 "
27-28	" " " " River, left bank	559,9 "	
28-29	" " " " " " "	570,7 "	4163,6 "
	Crossing high mountain spur E. of Shield's R.	584,7 "	5475,8 "
29-30	Camp on Shield's River	593,0 "	4696,3 "
30-July 1	" at Spring, 2 m. W. of Shield's River	606,8 "	5168,1 "
	Crossing mountain Spur	607,8 "	5659,4 "
	Dividing Ridge between waters of Shields' & Gallatin Rivers	621,2 "	6601,5 "
	Traversing deep ravine	622,6 "	6174,5 "
	Crossing High Ridge dividing Green R & E Fork of Gallatin River	624,7 "	7188,8 "
July 1-2	Camp on tributary of E Fork of Gallatin River	627,7 "	5710,3 "
	Crossing " " " " " " "	634,3 "	4794,3 "
	" Spur	635,9 "	5147,6 "
2-3	Camp at Junction of East & Main Forks of Gallatin River	642,3 "	4389,3 "
3-6	Camp on Gallatin River, 6 miles above the "Three Forks"	649,7 "	4195,8 "
	On Return Trip:		
6-7	Camp on E. Fork of Gallatin River	674,4 "	4533,1 "

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1860	Locality	Distance from Yellow Dr	Altitude
	On Route traversed by Lt. H. E. Maynadier		
	Divide between waters of E Fork of Gallatin & Shields' River	691,7 M	6213,8 ft
July 7-8	Camp on Tributary of Shields' River	704,3 "	5014,2 "
8-9	" " Yellow Stone River left bank 4m below mouth of Shields' Riv	723,8 "	4490,8 "
9-11	Camp on Yellow Stone River, left bank, 2m Big Rocky R.	750,1 "	3974,3 "
11-12	" " " " ", C. C.,	769,7 "	3878,6 "
12-13	" " " " ", " ", 2½m above Big Rose Bud	787,2 "	3733,7 "
13-14	" " " " ", C. C., 13m above Clark's Fork	809,8 "	3462,2 "
14-15	" " " " " ", 10m below Clark's Fk.	832,5 "	3214,0 "
15-16	" " " " " ", 3m below Pryor's River	853,2 "	3033,5 "
16-18.	" " " " ", C. C., opp. Pompey's Pillar	874,2 "	3035,2 "
18-19	" " " " " on an island	895,7 "	2890,0 "
19-20	" " " " " C. C., 5m below Big Horn R.	916,7 "	2779,6 "
20-21	" " " " " ", 4½m below Ft. Sarpy	942,3 "	2554,0 "
21-23	" " " " " ", 3m above Little Porcupine Creek	962,9 "	2570,3 "
23-24	" " " " " C. C.,	987,5 "	2588,0 "

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	Locality	Distance	Altitude
	On Route Traversed by Lt. H. E. Maynadier	Winter 2.	
July 24-25	Camp on Yellow Stone River, L. B., 3 mi. below Tongue R.	1008,7 ft	2564,9 ft
25-26	" " " " " " " 14 mi above Powder R.	1026,6 "	2437,1 "
26-27	" " " " " " " 3 mi below " "	1044,5 "	2451,9 "
	Leaving the river, crossing several spurs & again descending to		
27-28	Camp on Yellow Stone River, L. B., 2 mi above & Fallon's Cr	1067,7 "	2466,2 ft
28-29	" " " " " " L. B.,	1088,6 "	2156,8 ft
29-30	" " " " " " left bank,	1112,8 "	2121,7 "
30-31	" " " " " " " "	1141,0 "	Baro
31	" " Missouri River, right bank		meter
	2 miles above mouth of Yellow Stone River,		book
	& 2 miles below Ft Union	1171,0 "	lev.

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